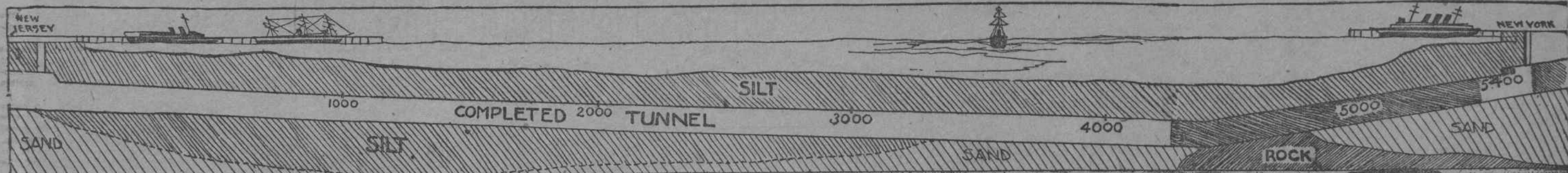


WHIZZ! DOWN INTO THE TUNNEL ON A TROLLEY CAR TO JERSEY



The Big Tunnel Almost Completed After 24 Years of Set-Backs, Accident and Death.

THE big hole in the ground down under the North River, where a tunnel to connect New York with Jersey City has been in progress, off and on, these past twenty-four years, is now to receive its finishing touch. A trolley line will be pushed through, and the vast tide of homeward-bound Jersey commuters and others will before long enjoy the novel experience of a ride fifteen feet under the river bed. The tunnel, it is expected, will be open for travel by next Spring.

ON the 1st of March next year we shall ride down under North River to Jersey on a trolley car. This is the promise of the Hudson River Tunnel Company.

The long-conceived and oft-interrupted Hudson River Tunnel, which has been twenty-four years in building and has cost \$1,500,000, is to be completed in the early Spring. The completion of the enterprise was made a certainty by Chancellor McGill's act of signing the order for the sale of the property September 2. Proceedings in foreclosure were brought by the Farmers' Loan and Trust Company, trustee of the bonds, and the property will be bought by the bondholders' committee.

For more than six months Sir Weltman Pearson, the contractor and engineer of the work, has been awaiting this necessary legal step before resuming the final work upon the big tunnel. It is expected that the work will begin within a few days.

The plans of the Hudson River Tunnel Company contemplate a spin under the Hudson from the foot of Morton street, this city, to the coal docks of Fifteenth street, Jersey City, for a single fare, three cents. A man will board a car at Morton street, light a cigar, begin a forecast of Manhattan politics, and before the cigar is half finished and the forecast is fairly begun, he will hear "Jersey City! All out!"

Madam, his wife, will have scarcely had time to settle her skirts with a view to artistic effect, and begin to dilate upon the nocturnal haunts of the newest baby in their house before she is called upon to alight at Fifteenth street, Jersey City.

It will be a pleasant journey, notwithstanding the fact that it will be made beneath the immense volume of the Hudson, taken, too, in a cannon-like enclosure sunk far into the bed of the mightiest of Eastern rivers. The cars will be brilliant with electric light and no sound less cheerful than the humming of the motor will reach the ears of the passengers.

Arrangements will be made for the convenience of street railway and elevated lines at the foot of Morton street, hence, without doubt, a great tide of travel will be emptied through the Hudson River Tunnel.

The length of the tunnel is 5,400 feet, 120 feet more than a mile. The distance already covered is 4,100 feet. The remaining distance, 1,300 feet, it is said, can be completed by March 1 by employing a force of 275 men upon the work. This can be done, it is estimated, at a cost of \$1,000,000, which amount was pledged a year ago in English capital, when Simon Sterne, counsel for Sir Weltman Pearson, contractor, visited England in the interests of the sub-river tunnel.

The Hudson River tunnel is a proof of the adage that there is no line of glory without a parallel line of suffering. The big tunnel was the scene of a tragedy one July day in 1881. A neglected leak caused the flooding of the bore, and twenty-one sturdy workmen were drowned as quickly and miserably as rats in a hole. Eight of their companions narrowly escaped the same fate.

In the same year many of the workmen were afflicted with and many died of the "bends," a disease which affects the spine

and causes the victims to bend, in their spasms of agony, like a half-open jack-knife, hence the name.

The shafts which mark the termini of the tunnel are sixty-five feet deep and twenty wide. At the foot of each shaft, from an antechamber, the headings of two parallel tunnels, which will comprise the Hudson River tunnel system, start on an easy grade in their descent under the stream. From the Jersey side the major portion of the work has been pushed, only 170 feet having been built from the New York side.

The tunnel is eighteen feet high and sixteen wide. The grade is determined by the maintenance of at least fifteen feet of earth between the river bed and the top of the tunnel. The line of construction begins at the intersection of Jersey avenue and Thirteenth street, Jersey City, and runs east to Hudson street. From Hudson street it begins to curve five degrees north toward the New York City bulkhead line, at the foot of Morton street. The line extends thence slightly to the south, and the intention is to ultimately extend it to Broadway.

In excavating the tunnel a novel plan was followed, which was originated and patented by De Witt Clinton Haskin. The plan, in brief, consisted in filling the tunnel with compressed air under a pressure of fifty pounds to the square inch. This served the purpose of keeping out the water and of upholding the sides of the tunnel until the brick and masonry could be built. In this compressed air the engineers and laborers engaged on the work toiled day after day. They had to pass through an elaborate air-tight door to reach the place where the work was going on. At all times a sharp watch had to be maintained to stop the numerous leaks which were encountered from time to time. It was neglect of one of these leaks which caused the death of twenty-one laborers in 1881.

The danger from leakage will be prevented in future by an equally novel method. Huge quantities of tough clay will be dumped on the bottom of the river near the New York shore above the place where the excavating is to be done. The weight and extent of this blanket of clay is expected to prevent the river from

percolating through into the tunnel excavation. After the tunnel is completed the clay will be dredged up again. At the same time it is not expected that the tunnel will be absolutely waterproof. The loose nature of the river bed will permit the entrance of water at nearly all times to the sides of the tunnel.

In order to obviate this it is proposed to build a permanent pumping station in the tunnel at its deepest point.

Since the work was discontinued in 1882 by reason of lack of funds the waters of the Hudson have so seeped into the tunnel by degrees that the shafts are filled to the mouth. Yet watchmen are constantly employed to guard the machinery at either terminus from marauders. R. H. Russell and family help watch at the Jersey City side and Charles Kenny on the New York side. Years of guarding the tunnel treasures have given to the watchmen a kind of proprietary interest in the big hole in the ground.

Both threw their hats into the air in their excitement on hearing that the necessary legal steps had been taken and the work was to be finished ere another year

rolled around. So long had the men guarded the sleeping enterprise that they had begun to feel like wardens at the tomb of hope.

In all the history of civil engineering there is no project that has had so checkered a career as that of the Hudson River tunnel, unless it be the scandal-ridden Panama Canal.

The tunnel was begun in 1874. Colonel De Witt Clinton Haskin, one of the promoters of the Union Pacific Railroad, was the original projector of the plan. New York capitalists, among them Tremor W. Park, were interested in the enterprise. There were some English investors, also, who were represented in this country by Sir Benjamin Baker.

When the work ended in 1882 because of lack of capital Sir John Fowler and Sir Benjamin Baker, who built the great bridge over the Firth of Forth in Scotland, were the consulting engineers. William B. Hutcheon was the chief engineer. E. W. Moir was the engineer for the contractors. Sir Weltman Pearson, and C. A. Haskin, son of Colonel De Witt Clinton Haskin, were the superintendents of construction. So far as possi-

ble this staff of experts will continue the direction of the work to its early completion.

Many capitalists, among them Tremor W. Park, died after investing millions in the big hole from which their heirs may soon expect dividends. There are few big enterprises that do not see some heirs broken in the course of their struggle to completion.

Tremor W. Park died a few weeks after the most horrible of the many accidents that marked and interrupted the progress of the Hudson River tunnel. His physicians said he died of disappointment. The same is true of some of the smaller of the English investors.

The approval with which the plan of a Hudson River tunnel was met at first brought money into the treasury faster even than the most optimistic of its promoters had hoped. The legislature and courts of New York and New Jersey approved and chartered the tunnel project in 1874 and the work was at once begun.

Almost from the outset serious difficulties were encountered. The bed of the river at the foot of Morton street was

found to be full of quicksand and it was found necessary to abandon the work there and transfer the operations to Jersey City. More than two years of the six originally planned for the construction of the tunnel were spent in sinking the shaft to a proper level. Then began to occur the accidents to men and machinery which involved litigation and delay.

Chief of the lawsuits brought against the Hudson River tunnel were the appeals by railroads for a settlement of water front rights. After years of delay awaiting the verdicts in these cases the tunnel company scored a victory.

Then comes the death of Tremor W. Park and of English capitalists, which financially crippled the enterprise.

Tedious litigation was brought to an end by foreclosure and the buying in of the bonds, and the promoters declare they are finally peering through the great hole in the ground at the light of day and that they hear the conductor's call of "All aboard for Jersey City!"

Still more welcome to their ears will be the sound of ringing up the fares.

WHEN THE TROLLEY CARS ARE RUNNING DOWN UNDER NORTH RIVER TO JERSEY NEXT SPRING.

ODD FACTS ABOUT CATS--BY A WOMAN WHO HAS STUDIED CATS ALL HER LIFE.



RS. W. CHANCE, an English authority on cats, has just brought out an interesting "Book of Cats, Being a Discourse on Cats, with Many Quotations and Original Penell Drawings." It is published by E. P. Dutton & Co.

The drawings are very clever and quite different from anything seen before. The

subject matter of the book is entertaining from first to last. The Sunday Journal presents herewith some most interesting odd facts and some of the drawings.

The ancient Egyptians paid extraordinary honor to the living images of their cat goddesses Bastet or Pasht, whose temple at Beni Hassan, dated from 1500 B. C. It was also worshipped in the temple of the Sun or Heliopolis, because the Egyptians thought that the cat's eyes showed secret analogies with the light of the sun, and for the same reason--it's waking and wailing pupils--the cat was also sacred to the moon.

Herodotus tells us that, when a cat died a natural death in an Egyptian house, it was mourned with grief and shaving of eyebrows, and that when fire occurred the household was more

anxious to save its cats than to put out the fire.

After death the Egyptian cats were embalmed and buried with great ceremony, and their mummies and effigies can be seen in the museums to this day.

In 918, Howell the Good, a prince of Wales, made a law fixing the price of a kitten before it could see at one penny, until it caught a mouse, two pennies, and when it began mousing, four pennies.

If any person stole the cat that guarded the granaries of this good prince he was to forfeit a milch ewe with its fleece and lamb or as much wheat as would cover the body of the cat suspended by the tail with its nose touching the ground.

Pope Gregory the Great, is said to have had a pet cat.

Mahomet's love for his "Muezna" is told in a pretty legend, that he cut off his sleeve sooner than disturb her in her sleep. It is said that we know had a favorite cat whose effigy was to be seen in the poet's house.



One of Tasso's most charming sonnets is addressed to his cat.

"It is my cat," wrote Victor Hugo, "which caused Mary to utter the memorable saying, 'God made the cat in order that man might have the pleasure of caressing the tiger.'"

Among notable English cat lovers are Lord Chesterfield (who left pensions to his cats), Southey, Jeremy Bentham and Dr. Johnson.

with perhaps two or three of his wives and children in full chase.

Cats vary in character as much as human beings, and I have in my cat family one or two individuals whose temper is decidedly crossed, though even they have their genial moments. On the whole, the ladies are the most amiable.

Sometimes a neglected cat will respond with the utmost gratitude and affection to any one who shows it a little unaccustomed



as though they had never been away from it.

Last year I took a little cat with me on a bicycle tour. It sat in a basket on the handlebars and appeared to enjoy everything except "coasting." Like "Gunga Din," it "didn't seem to know the use of

attention. Our cats always know when we are going away. They get restless and excited at the sight of the trunks being brought down and at the general bustle of packing. Several pussies of our have systematically refused to remain in the house when we have left it, and have always gone to live at the stables during our absence. The curious thing is, that within half an hour of our return they will come back and take up their abode in the house as though they had never been away from it.

A very pleasing feature of "Williams's" tour was the warm welcome he received from everybody whose hospitality he enjoyed.

It went down the Wye in a boat, it traveled by rail and in the cars or busses. It went through its ablutions on the crowded platforms with the utmost nonchalance. It went for long country walks, following like a dog, and jumping carefully over puddles and delicately avoiding wet places. If a cat came along it would spring into the bushes at the side of the road, and sit like "Brier Rabbit" in the brier patch, with just his head sticking out.

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